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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,467	07/03/2003	David Myr	MAK-105US	4935
7590 Lawrence E. Ashery RatnerPrestia One Westlakes (Berwny), Suite 301 P.O. Box 980 Valley Forge, PA 19482			EXAMINER OYEBISI, OJO O	
			ART UNIT 3692	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/613,467

Applicant(s)

MYR, DAVID

Examiner

OJO O. OYEBISI

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 6-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3, and 6-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

In the amendment filed on 02/22/07, the following have occurred: claims 1, 3, and 6-16 have been amended, and claims 1, 3 and 6-16 are pending.

#### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1, 3 and 6-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as originally filed, does not provide support for the invention as is now claimed i.e., **an optimization choice module**, for each of the trading strategies, for generating optimized trading parameters, by selecting one or more of the number of respective trading parameters **so that at least one of the respective trading parameters is prevented from being included in the optimized trading parameters**. More specifically, the specification, as originally filed, does disclose "optimization techniques examine all possible combinations of indicators and parameters trying to find out a best model (an optimal model). The current optimal model, its factors and coefficients, are being perpetually verified bar-by-bar based on the latest trading data. Each bar's trading data is used as an input for optimization technique, and a new optimal model is being determined. Then

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the optimal parameters of the found model are entered back into the trading strategy, and new Buy/Sell signals are generated based on the newly determined optimal model. i.e., a Machine Learning mechanism is taking previously determined optimal models, their parameters, components and trading results as an input for building a new model that will produce new improved Buy/Sell signals”, but not **an optimization choice model wherein at least one of the respective trading parameters is prevented from being included in the optimized trading parameters.**

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claims 1, 3, and 6-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kane (US PAT 6,317,728) in view of Freeny, Jr (US PAT: 6,594,643).

**Re claims 1, 3, and 8.** Kane discloses a multi channel Machine Learning trading system for generating number of independent trading strategies (i.e., agents) for respective securities, the multi-channel learning trading system comprising: a data Feed module for receiving real-time and historical trading data on the securities from a remote data server (i.e., data acquisition system, see the abstract, also see col.17 lines 3-12). Kane does not explicitly disclose a trading software module comprising: a trading strategy building module for building the number of independent strategies and generating independent respective buy/sell trading signals, based on a number of respective trading parameters used to build each of the trading strategies; the trading parameters being different for each trading strategy, an optimization choice module, for each of the trading strategies, for generating optimized trading parameters, by selecting one or more of the number of respective trading parameters so that at least one of the respective trading parameters is prevented from being included in the optimized trading parameters, such that the optimized trading parameters include respective trading parameters that predict a price movement of the respective securities in the trading strategy according to an optimization technique, based on the historical trading data, and a multi-channel machine learning module independently generating building respective self-optimized buy/sell trading signals for each of the trading strategies by further optimizing the respective optimized trading parameters for each of the trading strategies, based on respective trading results from the real-time trading data, a multi-channel automatic execution platform for-transferring the respective self-optimized buy/sell trading signal for each of the trading strategies

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simultaneously through a number of parallel programming connection channels from a computer trader's to one or more computerized exchanges, automatically and completely without human intervention. However, Freeny discloses a trading software module (i.e., instructions/algorithm) comprising: a trading strategy building module for building the number of independent strategies and generating independent respective buy/sell trading signals, based on a number of respective trading parameters used to build each of the trading strategies; the trading parameters being different for each trading strategy (i.e., The predetermined trading criteria include instructions, such as buy and sell orders, or algorithms capable of being used to analyze investment data to generate a trade request to buy and/or sell one or multiples of an investment item or products. For example, the predetermined trading criteria can be an instruction to buy and/or sell a stock at a predetermined price. In addition, multiple instructions (predetermined trading criteria) can be entered into the individual trading computer 16 to form a trading sequence relating to the same or different investment items. For example, a predetermined trading criterion to buy 100 shares of a stock at \$50.00 and another predetermined trading criterion to subsequently sell the 100 shares of the same stock at \$55.00 can be entered into the individual trading computer 16 before the predetermined trading criterion to buy the 100 shares of stock at \$50.00 has been executed. The predetermined trading criteria can then be sequentially executed if the stock's market price drops to \$50.00 and then rises from \$50.00 to \$55.00. The algorithm can be any algorithm and/or program capable of analyzing investment data to produce the trade request, such as a commercially available investment algorithm,

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see col.3 lines 22-45), an optimization choice module, for each of the trading strategies, for generating optimized trading parameters, by selecting one or more of the number of respective trading parameters so that at least one of the respective trading parameters is prevented from being included in the optimized trading parameters, such that the optimized trading parameters include respective trading parameters that predict a price movement of the respective securities in the trading strategy according to an optimization technique, based on the historical trading data, and a multi-channel machine learning module independently generating building respective self-optimized buy/sell trading signals for each of the trading strategies by further optimizing the respective optimized trading parameters for each of the trading strategies, based on respective trading results from the real-time trading data (see col.3 lines 50-67, also see col.4 lines 48-67), a multi-channel automatic execution platform for-transferring the respective self-optimized buy/sell trading signal for each of the trading strategies simultaneously through a number of parallel programming connection channels from a computer trader's to one or more computerized exchanges, automatically and completely without human intervention (i.e., The data interface 12 is shown in more detail in FIG. 2. The data interface 12 basically comprises an investment item data receiver and storage unit 40 which receives signals from an interface unit 42 via a communication link 44. The investment item data receiver and storage unit 40 can be a model M1365117T obtainable from Data Broadcast Corporation. The interface unit 42 can be a receiver antenna and the data source(s) 20 can be a local radio station which receives real time investment item quotes from a satellite station (not shown)

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sent from an investment item exchange, for example. In one embodiment, the investment item data receiver and storage unit 40 can receive real time investment item data on all investment items listed at investment item trading exchanges all over the world, see col.5 lines 5-25) (see the abstract and the summary of the invention). Thus it would have been obvious to one of ordinary skill in the art to combine the teachings of Kane and Freeny in order to minimize the costs of submitting the trade request signal (i.e., buying or selling investment items).

**Re claim 6.** Kane further discloses the system of claim 1, further comprising means of choosing if each of the buy/sell trading signals is executed on a partial order execution cases or all-or-none execution basis individually for each different trading strategy; the means of handling partial order execution cases and readjusting the system when partial order execution occurs (see col.12 lines 17-30, also see fig.11).

**Re claim 7.** Kane further discloses the system of claim 1, further comprising a hard-disk residing database and a computer storage means for storing and accounting trader's profit/loss information according to execution details of each of the buy/sell trading signals, independent of an additional bank or brokerage accounting system and in addition to own profit/loss accounting system of a bank/brokerage (i.e., (6) Record Trade Data and Account History: (185) When the system wakes up in the morning, it interrogates the brokerage account to obtain available capital, available margin, and other relevant information. The system then proceeds to trade against the account, and records the results of the trades including the reasons each position was taken and exited, and all relevant tax and economic data. All data is times tamped for later audit.



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For example the prevailing price at the time of an order and the price the order is filled at are both recorded and time stamped, see col.11 lines 11-20).

**Re claims 9-11.** Kane further discloses the system, further comprising means of choosing an execution trading strategy for each of the trading channels corresponding to the connection channels a number of strategies (i.e., decision logic and executing device, see fig.1 elements 14 and 11, see col.3 lines 10-60), according to strategy performance parameters including at least of a profit/loss, a volatility, or a maximal drawdown (see col.10 lines 35-66).

**Re claim 12.** Kane does not explicitly disclose the system, further comprising a multi-channel means of choosing different execution channels for different trading strategies, from a list of available order execution channels, i.e. multi-channel means for choosing through which execution channel each order will be sent to a specific market for each specific trading strategy. However, Freeny discloses a multi-channel means of choosing different execution channels for different trading strategies, from a list of available order execution channels, i.e. means for choosing through which execution channel each order will be sent to a specific market for each specific trading strategy (i.e., The individual selected market trader 28 receives the formatted trade request signal and in response thereto, the individual selected market trader 28 executes at least a portion of the trade. The individual selected market trader 28 is separate and apart from the individual trading computer 16. The individual

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selected market trader 28 can be anyone or anything that causes at least a portion of the trade to be consummated desirably on at least one trade exchange. The individual selected market trader 28 is selected by the individual from a plurality of potential traders, which may be Internet traders such as E-trade, Ameri-trade, Instinet, or Charles Schwab. The individual selected market trader 28 can be a company, an individual and/or a securities market, such as the New York Stock Exchange, the Pacific Stock Exchange, the Midwest Stock Exchange, the NASDAQ Stock Exchange, the over the counter market, the futures market, and/or the commodities market, see col.4 lines 10-33, also see col.6 lines 5-15). Thus it would have been obvious to one of ordinary skill in the art to combine the teachings of Kane and Freeny in order to minimize the costs of submitting the trade request signal (i.e., buying or selling investment items

**Re claims 13-15.** Kane does not explicitly disclose the system, further comprising a multi-channel means of choosing different order quantity and different maximal allowable Bid/Ask spread for each trading strategy. However, Freeny discloses a multi-channel means of choosing different order quantity and different maximal allowable Bid/Ask spread for each trading strategy (i.e., The predetermined trading criteria include instructions, such as buy and sell orders, or algorithms capable of being used to analyze investment data to generate a trade request to buy and/or sell one or

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multiples of an investment item or products. For example, the predetermined trading criteria can be an instruction to buy and/or sell a stock at a predetermined price. In addition, multiple instructions (predetermined trading criteria) can be entered into the individual trading computer 16 to form a trading sequence relating to the same or different investment items. For example, a predetermined trading criterion to buy 100 shares of a stock at \$50.00 and another predetermined trading criterion to subsequently sell the 100 shares of the same stock at \$55.00 can be entered into the individual trading computer 16 before the predetermined trading criterion to buy the 100 shares of stock at \$50.00 has been executed. The predetermined trading criteria can then be sequentially executed if the stock's market price drops to \$50.00 and then rises from \$50.00 to \$55.00. The algorithm can be any algorithm and/or program capable of analyzing investment data to produce the trade request, such as a commercially available investment algorithm, see col.3 lines 22-44). Thus it would have been obvious to one of ordinary skill in the art to combine the teachings of Kane and Freeny in order to minimize the costs of submitting the trade request signal (i.e., buying or selling investment items).

**Re claim 16.** Kane discloses the API/SDK-based system, further comprising the programming means of receiving order execution particulars through the API/SDK and storing it (i.e., see fig.1 elements 31, 27, 28, 29 and elements 17).

***Response to Arguments***

5. Applicant's arguments with respect to claims 1, 3 and 6-16 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OJO O. OYEBISI whose telephone number is (571) 272-8298. The examiner can normally be reached on 8:30A.M-5:30P.M.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RICHARD E. CHILCOT can be reached on (571)272-6777. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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ANDREW J. FISCHER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600